



## MESA VERDE RESOURCES

### Measuring the Fulvic Acid Fraction

Many of our customers have inquired as to how much fulvic acid is present in our products. The short answer is that the industry has yet to develop a quantitative test for fulvic acid. However, we have come up with a method to estimate the fulvic acid content which is useful in comparing different sources of humic/fulvic acids.

#### California Test

The California Humic Acid Test is a humic extraction using a strong base (NaOH), which puts humic and fulvic acids into solution. After lowering the pH to drop out the humic, this test “throws out” the remaining liquid, which contains primarily fulvic acid. The California Test performed on Mesa Verde Humates, when compared to tests that measure humic/fulvic combined, usually reports about half the humic content of other methods. It is obvious that this particular test greatly understates the “humic acid content”. Humates with a high percentage of the fulvic acid fraction are hit particularly hard by this inaccurate method.

#### Qualitative Measure

We have developed a fairly simple test which compares the relative amount of fulvic acid in different materials. This test was derived from the California Test. In short, this method provides us an opportunity to qualitatively determine how much of our humic/fulvic acid is actually fulvic. When lab results for the California Test vs. the full humic/fulvic test were calibrated to a colorimetric standardization, we found that the fulvic fraction in our humates averaged an estimated 35% of the total humic/fulvic content.

#### More Fulvic in MV Humates

Thus, for our 70% Grade, we are comfortable with estimating a fulvic acid fraction of about 25%. For comparison, North Dakota humates were found to have an estimated 17% fulvic acid fraction (see graph below). Since the fulvic acid fraction (along with the lighter weight humic acids) is especially “plant active”, this difference (50% more fulvic) manifests itself as a much quicker response in plant growth and mineral uptake, with an associated improvement in farming economics!

